



**APPENDIX (3 comments)**

<b>#GN-01</b>	
<b>Department</b>	Culture and Heritage
<b>Organization</b>	Government of Nunavut
<b>Subject/Topic</b>	Archaeological resources
<b>References</b>	NIRB Notice of Screening; project location map
<b>CONCERNS</b>	
N/A	
<b>SUGGESTIONS AND RECOMMENDATIONS</b>	
<p>Based on the archaeological studies, of the proposed quarry locations that were assessed, Q 10+500, Q 26+250, Q 30+050, Q 34+900, Q 50+600, and Q 52+00, are recommended for development as they avoid all nearby archaeological sites. Two other quarries (15+800 and 53+650) were not recommended for use due to the presence of large archaeological sites. The archaeological sites identified at these quarries are both relatively large and complex, and these sites would require significant additional archaeological investigation before the quarries could be used. As a result of these findings, at this time, Agnico Eagle is no longer proposing to use these locations as quarry sites.</p> <p>Given that archaeological assessment studies have been conducted and that Agnico-Eagle has committed to avoiding all archaeological sites during exploration activities, the Department of Culture and Heritage has no concern with the proposed exploitation of the six quarries listed above.</p>	
<b>ADDITIONAL COMMENTS</b>	
<p>The proposal puts forward the exploitation of six (6) new quarry sites to support the construction of the Amaruq Exploration Access Road (64.134km ) connecting the Meadowbank site to the Amaruq Exploration site. The 6.5m wide road has been the object of an archaeological assessment and the locations of the proposed quarries have all been surveyed under permit 2016-10A.</p>	

<b>#GN-02</b>	
<b>Department</b>	Environment
<b>Organization</b>	Government of Nunavut
<b>Subject/Topic</b>	Blasting: mitigation for wildlife
<b>References</b>	NWB Type B 8BC-AEA1525. Amendment to Include Additional Quarries: Main Application Document. November 2016. Application for a Type B Licence to Construct the Amaruq Exploration Access Road. Main Application Document Amaruq Exploration Access Road. March 2015.
<b>CONCERNS</b>	
<p>The proposed quarries along the Amaruq exploration road lay in the Ahiak and Lorillard Caribou herds annual ranges. More specifically, road construction and quarries operations will likely overlap with the Ahiak herd spring migration, and the wintering grounds of the Lorillard herd.</p> <p>Blasting activities associated with the operation of quarries have the potential to disturb and displace wildlife dependent on factors such as frequency of blasting, size of charges and the distance between blast site and wildlife. Blasting can also cause injuries or death to wildlife from flying rock.</p> <p>First paragraph of page 26 of the Main Application Document mentions: <i>“Sensory disturbances occurring during construction and road operation will result in effective habitat loss for the wildlife ecosystem components. The amount of effective habitat loss is measured in a zone of influence which is different for each ecosystem component depending on their sensitivity to disturbance. Ungulates, predatory mammals, and raptors will be most affected by sensory disturbance.”</i></p> <p>Further on page 26, it is mentioned: <i>“Various mitigation measures to reduce sensory disturbances will be implemented, including:</i></p> <ul style="list-style-type: none"> <li>• <i>follow safe and approved blasting procedures,</i></li> <li>• <i>ensuring vehicles are properly muffled,</i></li> <li>• <i>limiting personnel access into adjacent habitat; and</i></li> <li>• <i>enforcing a 50 km/h speed limit.”</i></li> </ul> <p>The Main Application Document lacks detail on the frequency and intensity of sensory disturbances to wildlife by blasting activities, nor does it present estimates of habitat loss in the zones of influence of the quarries and spur roads. The blasting procedures mentioned in bullet 1 are not defined. It is to be noted that the Main Application Document for the Amaruq Exploration Access Road does not include any specific mitigation measures designed to avoid or minimize impacts on wildlife caused by blasting.</p>	

**SUGGESTIONS AND RECOMMENDATIONS**

The GN requests that the Proponent provide the following information:

- The total area of the habitat loss (e.g. footprint) of the quarries and the spur roads, and their zones of influence.
- Daily rates of blasting (maximum and minimum) and decibel levels of noise generated.
- Measures that will be taken to establish blasting shutdown distances for both the safety of wildlife (i.e. the fly rock zone) and to minimize sensory disturbance; including the distance from, and animal's numbers/group size that will trigger a shutdown of blasting.
- Wildlife surveillance protocols and detection methods around the quarries.

**ADDITIONAL COMMENTS**

NA

<b>#GN-03</b>	
<b>Department</b>	Environment
<b>Organization</b>	Government of Nunavut
<b>Subject/Topic</b>	Road design
<b>References</b>	NWB Type B 8BC-AEA1525. Amendment to Include Additional Quarries: Main Application Document. November 2016.
<b>CONCERNS</b>	
<p>The proponent has determined that additional quarries are required for the construction of the Amaruq exploration access road, to reduce thaw susceptibility and to reduce potential road washouts along the road by armouring.</p> <p>Improper design (e.g. shoulders constructed of blocky material and steep slopes) may deter animals, especially ungulates, from crossing roads and amplify its barrier effect. The Main Application Document does not describe how the original design of the road is modified and whether these modifications will improve the road's "permeability" for wildlife crossing.</p>	
<b>SUGGESTIONS AND RECOMMENDATIONS</b>	
<p>The GN requests that the Proponent explain how the proposed modifications to the road design may improve or deteriorate wildlife crossing conditions with details on slopes, height of the road surface and material size.</p>	
<b>ADDITIONAL COMMENTS</b>	
NA	